eXplosive sound

X-TREME AMPLIFIERS

STEREO DSP POWER AMPLIFIERS

X-TREME via Monti Urali, 31 - 42029 Reggio Emilia (Italy) • ph. +39 - 0522 - 557735 • fax +39 - 0522 - 393733 • e-mail: info@x-tremeaudio.com

AMPLIFIERS

stereo DSP power amplifier

FEATURE

- Integrated system;
- Electronic protections: short circuit/overload protection, overheating protection and direct current excursion protection;
- Network control;
- Power supply: RMS 2 x 1700W (4Ω) RMS 2 x 1000W (8Ω) **XT3400**

  RMS 2 x 1300W (4Ω), RMS 2 x 850W (8Ω) **XT2600**

  RMS 2 x 1000W (4Ω), RMS 2 x 650W (8Ω) **XT2000**

- Built-in 48-bit DSP processor and dynamic range up to 116dB, 48kHz sampling rate A/D, D/A;
- Low noise and lower distortion;
- Well-designed signal generator: sin wave and white noise;
- S/PDIF input/output (option);
- Matrix control, up to 255 units controlled by selecting address code;
- Save and recall all parameters via PC parallel port 3 band PEQ, limiter (threshold, attack time and release time adjusted), delay (max 8ms), phase invert, input gain control;
- Two crossover: range, 20Hz-20kHz.

Crossover frequency adjusted. Slope: -6, - 12, -18, -24 and -48 dB butterworth or Linkwitz-Riley;

- 20 user memories available;
- THD+N: 0.08%@1kHz;
- Frequency response: 20Hz-20kHz;
- 2 x 20 LCD display with backlit.

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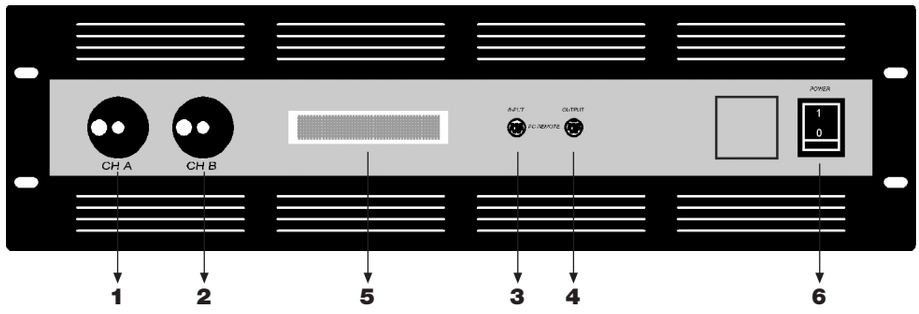
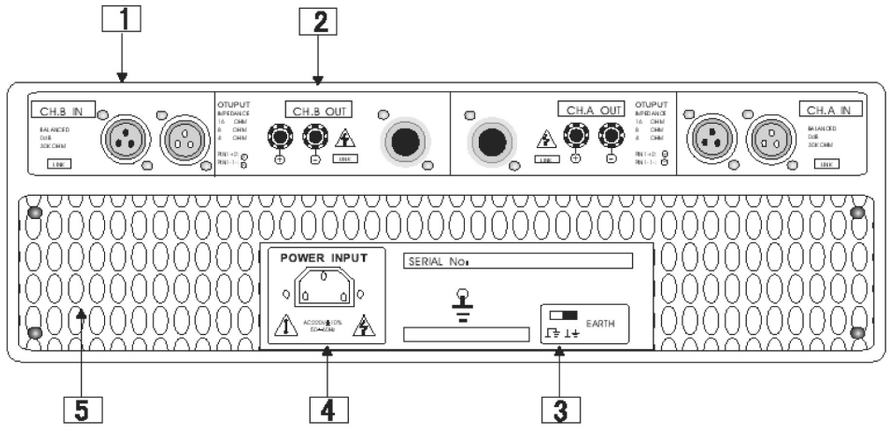
CONTROL PANEL

- **FRONT PANEL**



1. CHA: channel A volume adjustment;
2. CHB: channel B volume adjustment;
3. Input interface to PC;
4. Output interface to other unit pc port;
5. 2 x 20 LCD display with backlit;
6. Power: ON/OFF.

- **REAR PANEL**



1. Balanced input (0dB/30 kΩ): for all the models, both CHA and CHB have one pair of balanced input with cannon connector.
2. Power output: output should be connected to the loudspeaker. The CHA/CHB outputs of DSP series amplifier have one waterproof jack and one group of binding post. *Note:* the rated power and the impedance load of loudspeaker or loudspeaker system must match the amplifier (see technical specification). Please use speaker cable only (normally provided with one red and one black wire). Do not use the signal cable (normally used for microphone and audio equipment).
3. Earthed ON/FLOATING. Separate the signal earth from the chassis. Using this selector to break earth loops which can form when several units are connected.
4. Power: AC 220V 10% 50-60Hz.
5. Air vents. *Note:* the fan of the DSP series cooling system creates a flow of air with the direction from front to back. That means the air is taken from the opening on the front and is expelled through the opening on the back after cooling the heat sinks and transformer. Attention must be paid to avoid blocking these openings.

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OPERATION INSTRUCTION

OFF LINE MODE

Switch on the power, the system accesses the OFFLINE mode.

A. ADJUST THE VOLUME

Turn CHA/CHB button to adjust the input level of CHA/CHB. Pressing the CHB button for 1 second, both channels will be muted.

B. SETUP THE AMPLIFIER ID

Press CHA button for about 3 seconds, the LCD shows as follows:

Then, turn CHA to change the amplifier ID from 1 to 255. Press CHA button again and save the setting.

C. NOISE GATE SETUP

Under the menu SETUP AMPLIFIER ID, press the CHA button again for about 3 seconds and then the LCD shows as follows:

Turn the CHA button to switch on/off the noise gate. Then, press the CHA button again to save the setting.

NOISE GATE: ON.

It insert a noise gate on the output of CHA/CHB automatically.

NOISE GATE: OFF. The noise gate is not inserted.

D. SUB ADDRESS

Under the menu NOISE GATE SETUP, press the CHA button again for about 3 seconds and then the LCD shows as follows:

Turn the CHA button to change the Sub Address number. Then, press the CHA button again to save the setting.

E. LOAD PROGRAM

Press the CHB button for about 3 seconds, the LCD shows as follows:

Then, turn CHA to select one program (1-21).

Press CHB button again, save the setting and load the selected program. At the same time, the LCD shows:

LOADING ...

Several seconds later, the LOADING is finished and the system return the menu.

F. SETUP VOLUME PROTECT

Under the menu of load program, press the CHB button again for about 3 seconds and then the LCD shows as follows:

Turn the CHB button to switch on/off AUTO MUTE. Then, press the CHB button again to save the setting.

AUTO MUTE: ON. When the power is on, the volume of CHA/CHB is MUTE automatically.

AUTO MUTE: OFF. When the power is on, the volume of CHA/CHB comes to the setting when power was off last time.

G. SETUP GAIN LINK

Under the menu of load program, press the CHB button two times again for about 3 seconds and then the LCD shows as follows:

Turn the CHB button to switch on/off gain link. Then, press the CHB button again to save the setting.

GAIN LINK: ON. the volume of CHA/CHB is linked.

GAIN LINK: OFF. the volume of CHA/CHB is independent.

H. SECURITY SETUP

Under the menu of load program, press the CHB button three times again for about 3 seconds and then the LCD shows as follows:

Then, press the CHB button again to enter the security password to lock all the functions of the DSP amplifier.

NOTE:

1. Among 21 programs, No.21 is not used under the online mode without PEQ, XOVER and DELAY. The other 20 programs can be saved and recalled on the online mode.

2. The volume is mute automatically after every LOAD PROGRAM.

3. When the system switches from the online mode to the offline, the system can load the program that is saved under the online mode. At the same time, the volume is automatically mute.

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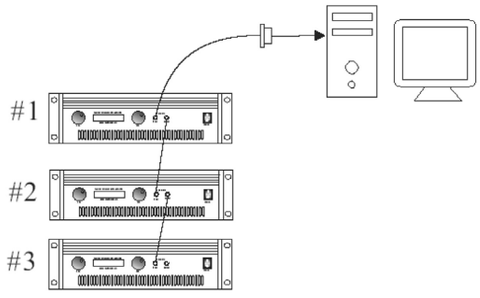
ONLINE MODE

A. Connect the amplifier to PC with the supplied cable: insert one end of cable into serial port of PC and the other end into the PC REMOTE in the front panel of amplifier. Start DSP6_48dB interface software.



B. CONNECTION. Click the Tools button and then click Connect.

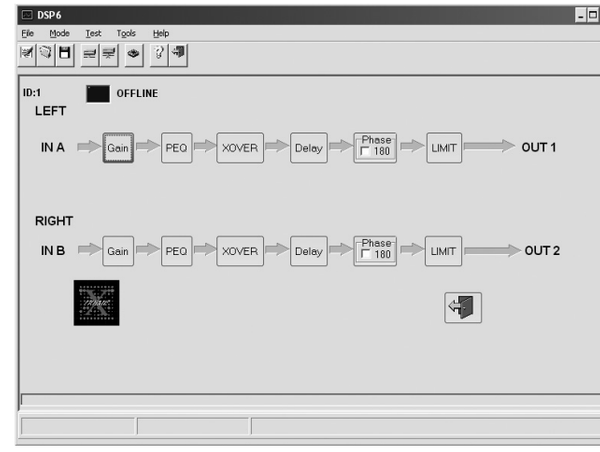
Select one device number(1-255). If this number is the same as the amplifier ID, the LCD shows as follows:

At that time, the system can be tested by DSP6 software. All the functions under the offline mode are not valid.

C. DISCONNECT. Click Debug button and then click Disconnect, the LCD shows as follows:

Then the software testing is not valid. The system return the offline mode. Regarding the operation of DSP6 software, please refer to the online help of it.

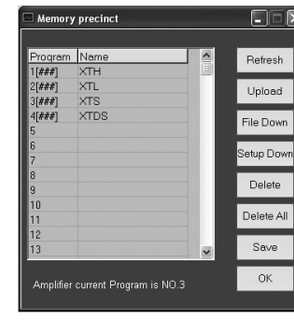
PC SOFTWARE



MENU COMMAND

File menu

New: create a new File.
Open: opens an existing File to set.
Save: save current setting to Disk File.
Memory: opens DSP6 Memory precinct management menu



Mode menu

Stereo: stereo mode, the input and output of left and right channel is independent.
Bridge: bridge mode, the output phase of left and right channel is reverse.
Mono: mono mode, the output phase of left and right channel is same.

Test menu

Sine wave: sine wave Test.
Noise: white noise Test.

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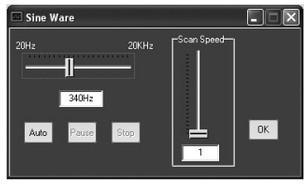


Tools menu

COM Setup: select COM port.
Search: search Network.
Connect: connection of the amplifier.
Disconnect: disconnect the Device.

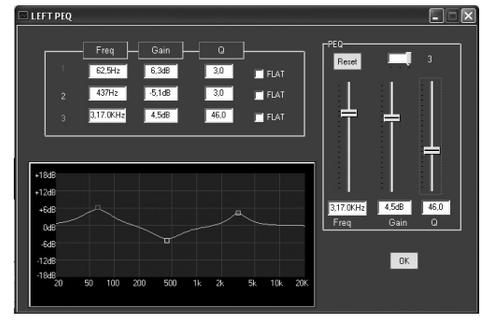
Help menu

Content: index of topics.
About: displays the version number of the application.

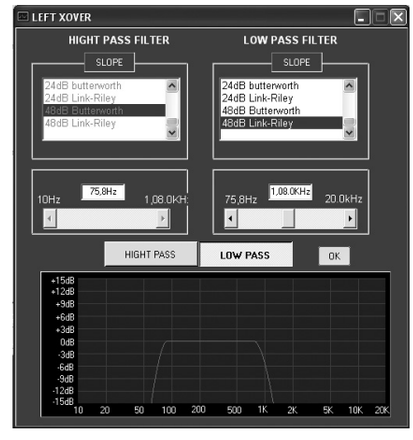
PARAMETER ADJUSTMENT

1. Gain. Click Gain button to set the level of the Left/right Channel. Volume Range:-60dB to 6dB.

2. PEQ. Click "PEQ" button and then the frequency, gain, Q value and flat (on/off) of 3 band PEQ can be set.
Frequency range: 19.7Hz ~20.2kHz
Q value: 0.4~128
Gain: from -12db to 12db



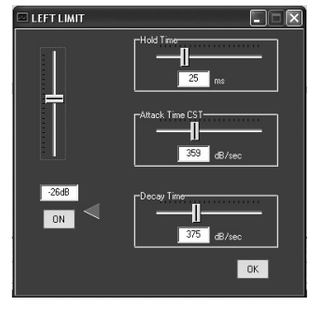
3. Xover. Click the Xover button and then the parameters of filter (slope and frequency of HPF/LPF) can be set. The Minimum Frequency of LPF is not lower than the maximum frequency of HPF.



4. Delay. Click the Delay button and then the delay unit and delay time can be set. Max delay: 8ms.

5. Phase. Click the 180 check box to select. The reverse phase: 0,180.

6. Limiter. Click the Limiter button and then the threshold, hold time, attack time and release time can be adjusted. Used for protecting the system.



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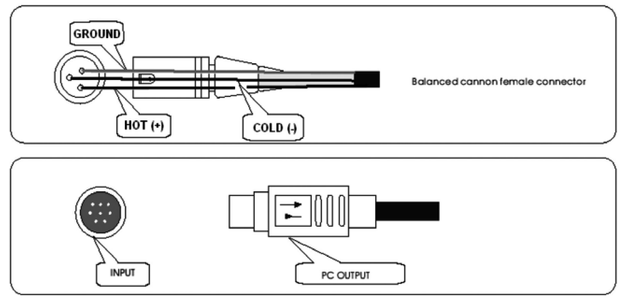
SPECIFICATION

Power supply:
XT 3400: 2 x 1700 W RMS (4Ω) 2 x 1000W (8Ω)
XT 2600: 2 x 1300 W RMS (4Ω) 2 x 850W (8Ω)
XT 2000: 2 x 1000 W RMS (4Ω) 2 x 650W (8Ω)
SNR: >90dB
THD+N: 0.08%@1kHz
IMD: 0.18%, 1kHz@1W
Frequency response: 20-20kHz(+0,-0.5dB)
Input sensitivity/impedance: 0dB(0.775Vrms)/30kΩ
Crosstalk: >50dB
Damping factor: >500:1 @1kHz/8Ω
Phase response: -18 @20Hz, +25 @20kHz
Voltage gain: 40dB@1kHz/8Ω
Protection DC, overload, thermal and shorted protection
Standard power: AC220V 10% 50-60Hz
Dimensions: 483 x 132 x 495 mm
Gross weight:
41 Kg (XT 3400)
39 Kg (XT 2600)
35 Kg (XT 2000)

CONNECTOR CABLE

The following diagrams illustrate the wiring of the various types of sockets that can be used with the XT power amplifiers. To connect the amplifier to the mixer, be always sure to use only signal cables (screened cables made up of two wires plus a braid screen), not power cables (speaker cables, normally made up of two wires, usually with a greater cross-section): the use of unscreened cables could in fact cause annoying buzzes and background noise.
We therefore always suggest the use of balanced cables for microphones and line units whenever possible. To connect the amplifier to the loudspeaker enclosures, always use only power cables, not signal cables, as in the latter case in fact, the power from the amplifiers would partially be dispersed because of the cable's smaller cross-section.
Take care of the connector cables. Always hold them by the connectors, avoiding pulling the wire and avoid knots and twists when coiling them: this gives the advantage of increasing their life and reliability.
Check your cables periodically, be sure that they are in good condition, that the connectors are correctly wired and contacts perfectly efficient: in fact, many problems and setbacks (faulty contacts, ground hum, disturbance, etc.) are due to the use of unsuitable of faulty cables.



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INSTALLATION & OPERATING INSTRUCTION

Main power connection

Before connecting the amplifier to the main power socket, be sure that the voltage corresponds to the one indicated on the rear of the unit (an allowance of 10% is acceptable). Before connecting the power cable to the mains, always be sure that it is not damaged and that there are no bare wires, always connect the power cable to the amplifier before switching it on and only remove the cable after switching it off.

Switching on and off

In an audio system, it's always better to switch power amplifiers on last and off first. Remember to switch off the amplifier before connecting it to or disconnecting it from other units and to always switch on first the mixer and then the amplifier : in this manner, peaks which are annoying and sometimes dangerous particularly for the loudspeakers enclosures are avoided. It is normal for the LEDs to light up for a few moments when switching on.

Handling

Do not force knobs and connectors, as they could be damaged if treated with excessive force.

Connections and prevention of possible interference

Avoid installing your equipment near radios, televisions, etc., since they could cause noisy disturbance. When connecting the other units in your sound system, watch out for to so-called earth-loops, which can cause hum: in the event of interference, try using the EARTH switch on the amplifier's rear panel.

Connector cables

To connect the amplifier to the mixer, always be sure to use only signal cables (screened cables made up of two wires plus a braid screen), not power cables (speaker cables, normally made up of two wires, usually with a greater cross-section): to connect the amplifier to the loudspeaker enclosures, always use power cables, not signal cables, as in the latter case in fact, the power from the amplifiers would partially be dispersed because of the cable's smaller cross-section. Take care of the connector cables. Always hold them by the connectors, avoiding pulling the wire and avoid knots and twists when coiling them: this gives the advantage of increasing their life and reliability.

Air circulation for cooling

Amplifier's correct cooling is ensured by an internal fan, the speed of which is controlled by a special sensor (the speed is proportional to output power and therefore to the generated temperature):remember never to block the air vents located on the unit's sides in any way: the air necessary for cooling passes through these. If the amplifier is kept in a flight-case during use, make certain that it has sufficient openings at both the amplifier's air vents. Avoid locating it very small spaces which don't allow correct air circulation.

IMPORTANT SAFETY INSTRUCTION

Warning

When using electric products, basic precautions should always be followed:

1. Read all the SAFETY INSTRUCTIONS before using the product.

2. This product must be earthed. If it has malfunction or breaks down, grounding provides a path of least resistance for electric current to reduce risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug.
The plug must be plugged into an appropriate outlet that is properly installed and earthed in accordance with all local codes and ordinance.

Danger

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

3. To reduce the risk of injury, close supervision is necessary when the product is used near children.

4. Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, in wet basement or near a swimming pool or the lake.

5. This product may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

6. This product should be located so that its location or position does not interfere with its proper ventilation.

7. This product should be located away from heat sources such as radiators, heat registers or other products that produce heat.

8. The product should be connected to a power supply only of the type described on the operating instructions or as marked on the product.

9. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

10. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power-supply cord, do not pull on the cord, but grasp it by the plug.

11. Care should be taken so that object do not fall and liquid are not spilled into the enclosure through openings

12. The product should be serviced by qualified service personnel when:

- **A.** The power-supply cord or the plug has been damaged;
- **B.** Objects have fallen, or liquid has been spilled into the product;
- **C.** The product has been exposed to rain;
- **D.** The product does not appear to operate normally or exhibits a marked change in performance;
- **E.** The product has been dropped or the enclosure damaged.

13. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

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